

TENNESSEE GREEN STAR PARTNERSHIP MEMBER HIGHLIGHT



MAHLE Engine Components USA, Inc. – Morristown, TN

MAHLE

By: Vaughn Cassidy

Established in 1920, the MAHLE Group has become a leading international development partner and supplier to the automotive industry as well as a pioneer for the mobility of the future. MAHLE is committed to making transportation more efficient, more environmentally friendly and more comfortable by continuously optimizing the combustion engine, driving forward the use of alternative fuels, and laying the foundation for the worldwide introduction of e-mobility. MAHLE products are fitted in at least every second vehicle worldwide.

In Morristown, MAHLE serves major automotive and diesel piston customers and is the leading producer of power cell modules in North America. MAHLE has over 900 employees at its Morristown plant who are proud of the quality and reliability of their manufactured parts as well as timely delivery to their customers.

“A large part of our efficient use of energy is due to our commitment to quality and reliability,” said Ralph Williams, Area Supervisor for Environment and Safety. “We have many examples of improvements to quality that end up saving us quite a bit of energy.” The foundry induction controls in place on five alloy melting furnaces; for example, were originally installed to reduce oxide generation by automatically adjusting melt temperatures. “What was originally a quality measure ended up saving us a total of over 700,000 kilowatt hours and nearly \$50,000.00 annually.”

In addition to a significant commitment to energy efficiency, MAHLE has also made major commitments to improved employee safety through a significant reduction in hazardous air emissions. MAHLE casts aluminum alloy pistons for its diesel and automotive customers. An aluminum alloy is created by adding copper, magnesium, silicon and other refining elements to pure aluminum to improve its mechanical properties. Aluminum is an extremely reactive metal and oxidizes rapidly in the air. Aluminum oxide contaminants in the molten metal cause poor casting quality and are removed by fluxing with chlorine, nitrogen or even argon gases. The resulting gasses are corrosive and can be hazardous to employee health. MAHLE researched and installed high-efficiency rotary scrubbers and flux injection equipment that reduced hazardous air pollutants 97% from levels in 2004.

FEATURED THIS MONTH:

- Established in TN in 1977
- Employs 900
- Member since 2004

INTERESTING FACTS

- Half of all vehicles contain MAHLE parts
- Third largest employer in Hamblen County



Not every energy efficiency project has to be complicated. MAHLE operated a natural gas fired industrial boiler for comfort heating to provide hot water for showers and sinks and supply hot water to the heat exchangers in several roof mounted air handlers to heat incoming air during the winter months. The boiler had operated year round even though the air handlers did not need to warm the incoming air during the summer when there was less hot water demand. The facilities department discovered that they could install two properly placed water heaters and shut the boiler off during the warmer months, usually May to October. This simple project saved almost 7 million cubic feet of natural gas and resulted in an annual cost reduction of nearly \$60,000.

Since 2014, MAHLE has completed several other projects resulting in additional annual energy savings. The projects include upgrading HVAC equipment, replacing sodium lights throughout the facility with LEDs and adding energy efficiency roofs and insulation to recent building expansions.

MAHLE Engine Component USA, Inc.'s commitment to quality and excellence far exceed the boundaries of their manufacturing facility. MAHLE's commitments to the local community are often covered in their employee publication, MAHLE Global. On April 18th, MAHLE management team members celebrated Earth Day by assisting TDEC park rangers at Panther Creek State Park. "Panther Creek is a staple of Morristown's community," said Jim Sexton, Senior Director and Plant Manager at MAHLE, "that not only provides ample recreational opportunities, but is of educational, cultural and historical significance in the region." Over four dump truck loads of trash were removed from creek beds including eight washing machines, two water heaters and other household debris. The MAHLE team encountered a family on a hike that expressed their appreciation for cleaning the debris.

As a Tennessee Green Star Partner, MAHLE has been invited to participate in the Tennessee Materials Marketplace. The [Tennessee Materials Marketplace](#) is a collaboration between industries, facilitated by an interactive online materials exchange, to recycle, repurpose, and return material discards back to Tennessee's economy.



"MAHLE strives to make its products as energy and resource efficient as possible,"

*Jim Sexton, Senior Director/Plant Manager
MAHLE Engine Components USA, Inc.*

The [Tennessee Green Star Partnership](#) is a voluntary environmental leadership program designed to recognize industries in the state that are committed to sustainable practices. If you are interested in joining MAHLE of Morristown and other sustainable industries in Tennessee by becoming a member, please contact us.